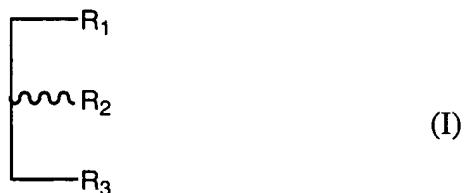


WHAT IS CLAIMED IS:

1. A method for treating a host infected with RSV comprising administering an anti-RSV effective amount of a compound of Formula I:



or a pharmaceutically acceptable salt or prodrug thereof,

wherein:

$R_1$  is selected from the group consisting of  $-NHC(O)Y$ , where  $Y$  is  $C_1$ - $C_{22}$  alkyl,  $C_2$ - $C_{22}$  alkenyl, and  $C_2$ - $C_{22}$  alkynyl;

$R_2$  is selected from the group consisting of  $-OX$ , where  $X$  is  $C_1$ - $C_{22}$  alkyl,  $C_2$ - $C_{22}$  alkenyl,  $C_2$ - $C_{22}$  alkynyl; and

$R_3$  is phosphocholine.

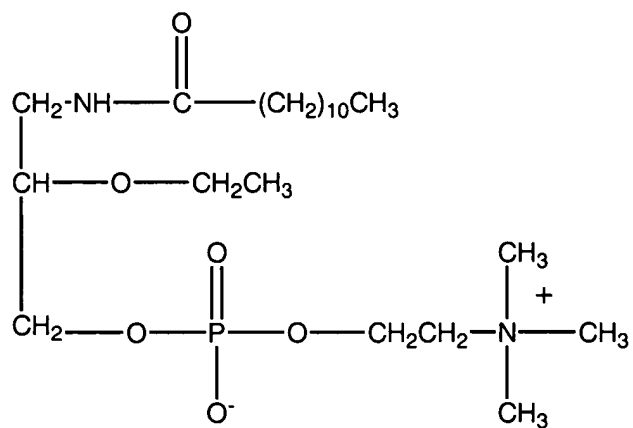
2. The method of claim 1 wherein  $Y$  and  $X$  are independently  $C_1$ - $C_{14}$  alkyl,  $C_2$ - $C_{14}$  alkenyl, or  $C_2$ - $C_{14}$  alkynyl.

3. The method of claim 1 wherein:

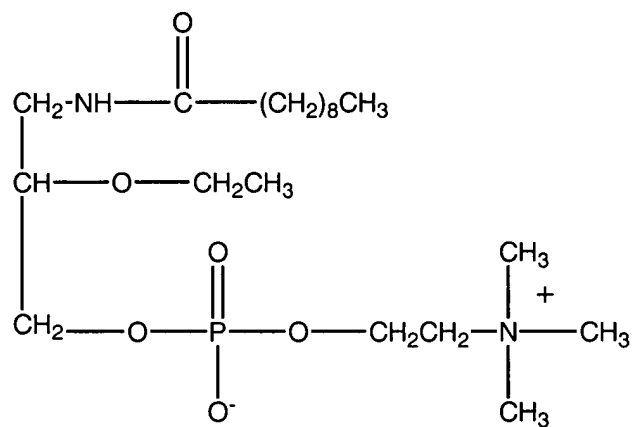
$Y$  is  $-C_{10}H_{21}$ ; and

$X$  is  $-CH_2CH_3$ ,  $-CH_2CH_2CH_3$ ,  $-CH_2CH_2CH_2CH_3$ , or  $-C_{10}H_{21}$ .

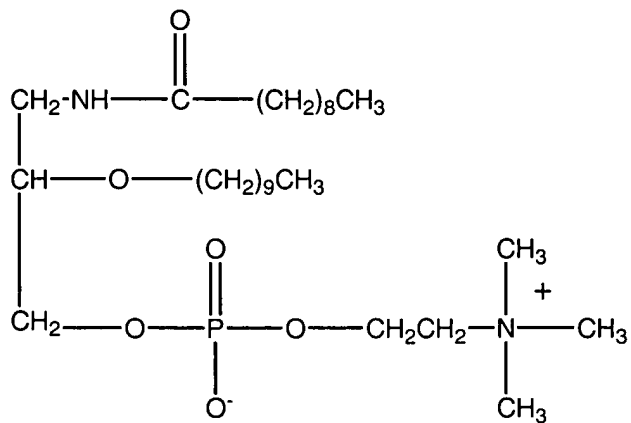
4. The method of claim 1 wherein  $Y$  is  $-C_{11}H_{23}$  and  $X$  is  $C_1$ - $C_5$  alkyl.
5. The method of claim 1 wherein  $Y$  is  $-C_9H_{19}$  and  $X$  is  $C_9$ - $C_{11}$  alkyl.
6. The method of claim 1, wherein the compound is



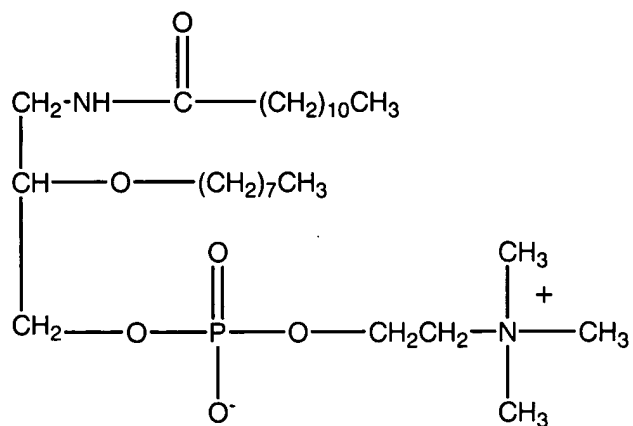
3-dodecanamido-2-ethoxypropyl-1-phosphocholine,



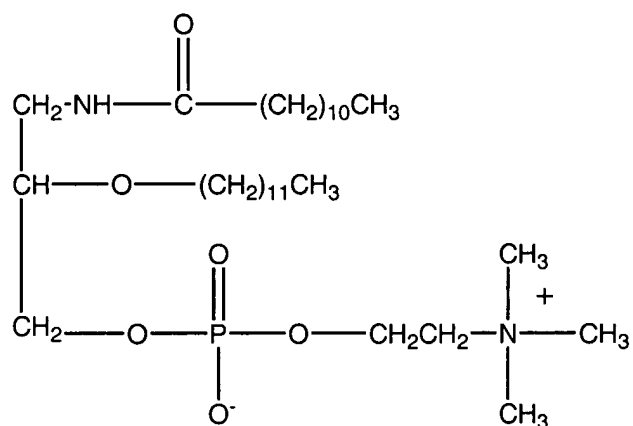
3-decanamido-2-ethoxypropyl-1-phosphocholine,



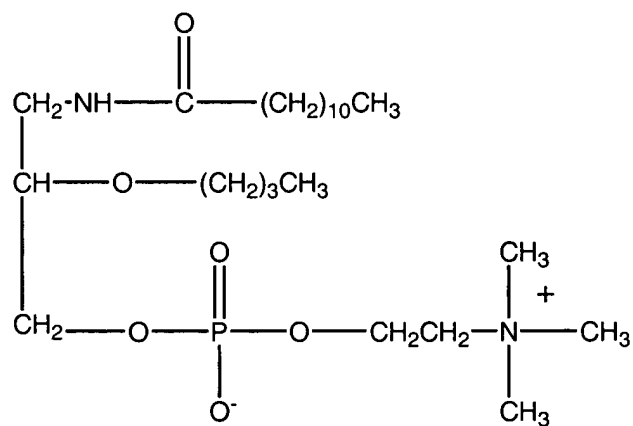
3-decanamido-2-decyloxypropyl-1-phosphocholine,



3-dodecanamido-2-octyloxypropyl-1-phosphocholine,



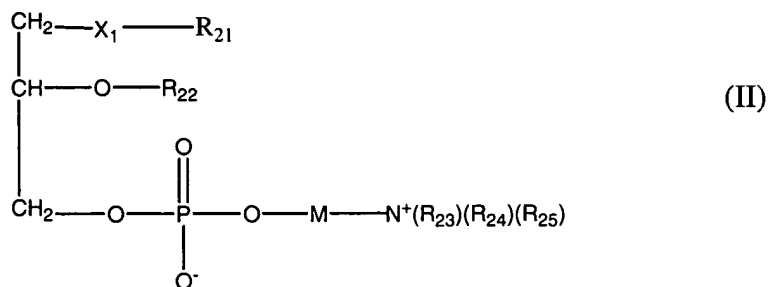
3-dodecanamido-2-dodecyloxypropyl-1-phosphocholine, or



3-dodecanamido-2-butyloxy-1-phosphocholine; or a combination thereof.

7. The method of claim 1 wherein the host is a mammal.

8. The method of claim 1 wherein the host is a human.
9. A method for treating a host infected with RSV comprising administering an anti-RSV effective amount of a compound of Formula II:



or a pharmaceutically acceptable salt or prodrugs thereof,

wherein:

M is C<sub>2</sub>-C<sub>4</sub> alkyl;

X<sub>1</sub> is selected from the group consisting of -S-, -O-, -NH-, and -NHC(O)-;

R<sub>21</sub> is selected from the group consisting of C<sub>1</sub>-C<sub>20</sub> straight chain alkyl, C<sub>2</sub>-C<sub>20</sub> straight chain alkylene containing not more than four double bonds, and aryl;

R<sub>22</sub> is selected from the group consisting of C<sub>1</sub>-C<sub>20</sub> straight chain alkyl, C<sub>2</sub>-C<sub>20</sub> straight chain alkylene containing not more than four double bonds, and aryl; and

R<sub>23</sub>, R<sub>24</sub>, and R<sub>25</sub> are each independently selected from the group consisting of hydrogen, methyl, ethyl, propyl, and isopropyl.

10. The method of claim 9 wherein

M is -CH<sub>2</sub>CH<sub>2</sub>-;

X<sub>1</sub> is -NHC(O)-;

R<sub>21</sub> is selected from the group consisting of a C<sub>1</sub>-C<sub>16</sub> straight chain alkyl and C<sub>2</sub>-C<sub>16</sub> straight chain alkylene containing not more than one double bond;

R<sub>22</sub> is selected from the group consisting of a C<sub>1</sub>-C<sub>16</sub> straight chain alkyl and C<sub>2</sub>-C<sub>16</sub> straight chain alkylene containing not more than one double bond; and

R<sub>23</sub>, R<sub>24</sub>, and R<sub>25</sub> are each independently hydrogen or methyl.

11. The method of claim 9 wherein

R<sub>21</sub> is selected from the group consisting of C<sub>1</sub>-C<sub>16</sub> straight chain alkyl and C<sub>2</sub>-C<sub>16</sub> straight chain alkylene containing not more than one double bond; and

R<sub>22</sub> is selected from the group consisting of C<sub>1</sub>-C<sub>5</sub> straight chain alkyl and C<sub>2</sub>-C<sub>5</sub> straight chain alkylene containing not more than one double bond.

12. The method of claim 11 wherein R<sub>21</sub> is C<sub>9</sub>-C<sub>12</sub> alkyl and R<sub>22</sub> is C<sub>1</sub>-C<sub>12</sub> alkyl.

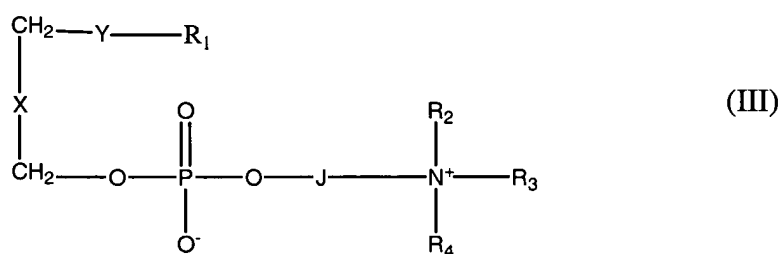
13. The method of claim 11 wherein R<sub>21</sub> is C<sub>9</sub>-C<sub>12</sub> alkyl and R<sub>22</sub> is C<sub>1</sub>-C<sub>5</sub> alkyl.

14. The method of claim 11 wherein R<sub>21</sub> is C<sub>9</sub>-C<sub>12</sub> alkyl and R<sub>22</sub> is C<sub>8</sub>-C<sub>12</sub> alkyl.

15. The method of claim 9 wherein the host comprises a mammal.

16. The method of claim 9 wherein the host comprises a human.

17. A method for treating a host infected with RSV comprising administering an anti-RSV effective amount of a compound of Formula III:



or a pharmaceutically acceptable salt or prodrug thereof,

wherein:

Y is selected from the group consisting of -S-, -O-, -NH-, -N(CH<sub>3</sub>)-, -NHC(O)-, and -N(CH<sub>3</sub>)C(O)-;

$R_1$  is selected from the group consisting of  $C_1$ - $C_{18}$  alkyl,  $C_2$ - $C_{18}$  alkenyl,  $C_2$ - $C_{18}$  alkynyl, and aryl;

X is a covalent bond or methylene that is optionally substituted with a hydroxyl,  $C_1$ - $C_{20}$  alkyl, -O-( $C_1$ - $C_{20}$  alkyl), -S-( $C_1$ - $C_{20}$  alkyl), -C(O)N( $C_1$ - $C_{20}$  alkyl),  $C_2$ - $C_{20}$  alkenyl, -O-( $C_2$ - $C_{20}$  alkenyl), -S-( $C_2$ - $C_{20}$  alkenyl), -C(O)N( $C_2$ - $C_{20}$  alkenyl),  $C_2$ - $C_{20}$  alkynyl, -O-( $C_2$ - $C_{20}$  alkynyl), -S-( $C_2$ - $C_{20}$  alkynyl), or -C(O)N( $C_2$ - $C_{20}$  alkynyl);

J is a  $C_1$ - $C_4$  alkyl optionally substituted from one to three times with methyl or ethyl; and

$R_2$ ,  $R_3$ , and  $R_4$  are independently hydrogen or  $C_1$ - $C_3$  alkyl.

18. The method of claim 17 wherein:

Y is -NHC(O)-;

$R_1$  is  $C_6$ - $C_{18}$  alkyl;

X is -C(H)(O- $C_1$ - $C_{18}$  alkyl)- or -C(H)(O- $C_1$ - $C_{18}$  alkenyl)-;

J is -CH<sub>2</sub>CH<sub>2</sub>-; and

$R_2$ ,  $R_3$ , and  $R_4$  are each methyl.

19. The method of claim 18 wherein  $R_1$  is -C<sub>11</sub>H<sub>23</sub> and X is -C(H)(O- $C_1$ - $C_5$  alkyl)- or -C(H)(O- $C_1$ - $C_5$  alkenyl)-

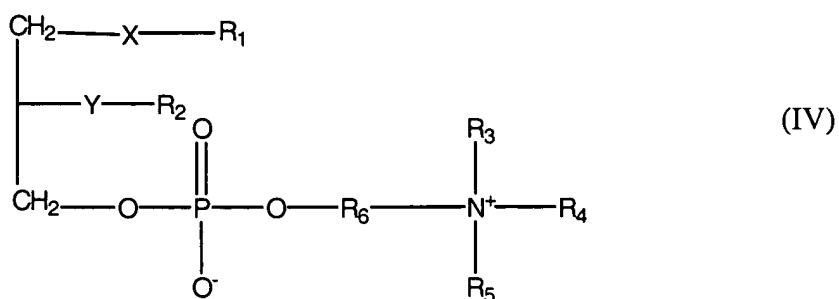
20. The method of claim 18 wherein  $R_1$  is -C<sub>9</sub>H<sub>19</sub> and X is -C(H)(OC<sub>2</sub>H<sub>5</sub>)-.

21. The method of claim 17 wherein  $R_1$  is -C<sub>9</sub>H<sub>19</sub> and X is -C(H)(OC<sub>10</sub>H<sub>21</sub>)-.

22. The method of claim 17 wherein the host comprises a mammal.

23. The method of claim 17 wherein the host comprises a human.

24. A method for treating a host infected with RSV comprising administering an anti-RSV effective amount of a compound of Formula IV:



or a pharmaceutically acceptable salt or prodrug thereof,

wherein:

R<sub>1</sub> is selected from the group consisting of C<sub>1</sub>-C<sub>18</sub> alkyl, C<sub>2</sub>-C<sub>18</sub> alkenyl, and C<sub>2</sub>-C<sub>18</sub> alkynyl that is optionally substituted from 1 to 5 times with -OH, -COOH, oxo, amino, or aryl;

X is selected from the group consisting of -NHC(O)-, -N(CH<sub>3</sub>)C(O)-, -C(O)NH-, -C(O)N(CH<sub>3</sub>)-, -S-, -S(O)-, -(SO<sub>2</sub>)-, -O-, -NH-, and -N(CH<sub>3</sub>)-;

R<sub>2</sub> is selected from the group consisting of C<sub>1</sub>-C<sub>14</sub> alkyl, C<sub>2</sub>-C<sub>14</sub> alkenyl, and C<sub>2</sub>-C<sub>14</sub> alkynyl that is optionally substituted from 1 to 5 times with -OH, -COOH, oxo, amino, or aryl;

Y is selected from the group consisting of -NHC(O)-, -N(CH<sub>3</sub>)C(O)-, -C(O)NH-, -C(O)N(CH<sub>3</sub>)-, -S-, -S(O)-, -(SO<sub>2</sub>)-, -O-, -NH-, -N(CH<sub>3</sub>)-, and -OC(O)-;

R<sub>6</sub> is selected from the group consisting of C<sub>2</sub>-C<sub>6</sub> alkyl; C<sub>2</sub>-C<sub>6</sub> alkenyl, and C<sub>2</sub>-C<sub>6</sub> alkynyl; and

R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are independently methyl or ethyl, or R<sub>3</sub> and R<sub>4</sub> together form an aliphatic or heterocyclic ring having five or six ring atoms and R<sub>5</sub> is methyl or ethyl.

25. The method of claim 24 wherein:

R<sub>2</sub> is C<sub>1</sub>-C<sub>14</sub> alkyl, C<sub>2</sub>-C<sub>14</sub> alkenyl, or C<sub>2</sub>-C<sub>14</sub> alkynyl;

R<sub>6</sub> is -CH<sub>2</sub>CH<sub>2</sub>-; and

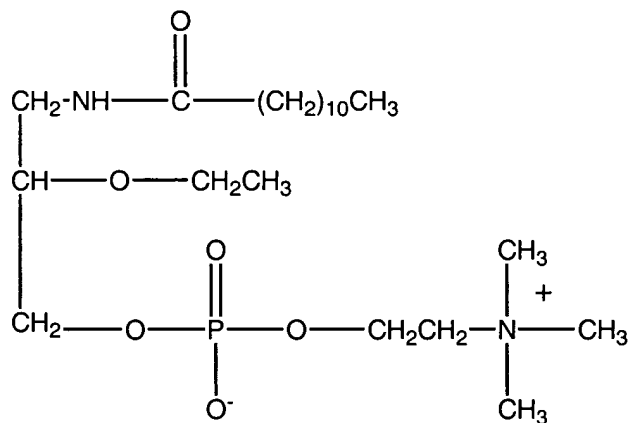
R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> are each independently CH<sub>3</sub>.

- 26. The method of claim 25 wherein R<sub>2</sub> is C<sub>1</sub>-C<sub>5</sub> alkyl or C<sub>2</sub>-C<sub>5</sub> alkenyl.
- 27. The method of claim 25 wherein R<sub>1</sub> is C<sub>8</sub>-C<sub>12</sub> alkyl and R<sub>2</sub> is C<sub>1</sub>-C<sub>12</sub> alkyl.
- 28. The method of claim 25 wherein R<sub>1</sub> is C<sub>8</sub>-C<sub>12</sub> alkyl and R<sub>2</sub> is C<sub>1</sub>-C<sub>5</sub> alkyl.
- 29. The method of claim 25 wherein R<sub>1</sub> is C<sub>8</sub>-C<sub>12</sub> alkyl and R<sub>2</sub> is C<sub>8</sub>-C<sub>12</sub> alkyl
- 30. The method of claim 27 wherein

X is -NHC(O), -N(CH<sub>3</sub>)C(O)-, -C(O)NH-, -C(O)N(CH<sub>3</sub>); and

Y is -O-, -NH-, or -N(CH<sub>3</sub>)-

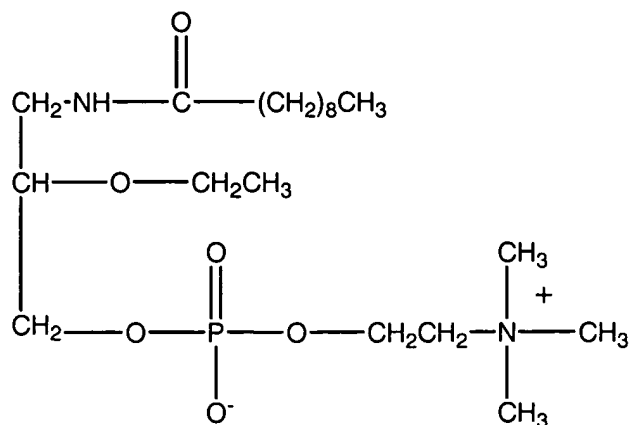
- 31. The method of claim 24 wherein the host comprises a mammal.
- 32. The method of claim 24 wherein the host comprises a human.
- 33. The method of claim 24 wherein the compound comprises:



3-dodecanamido-2-ethoxypropyl-1-phosphocholine.

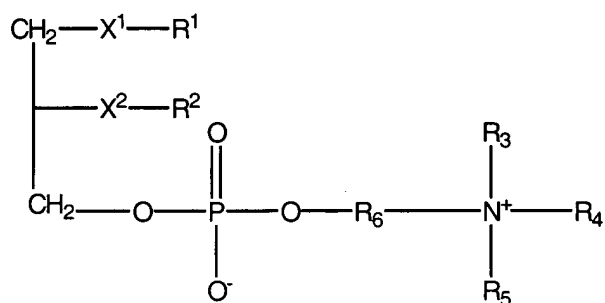
- 34. The method of claim 24 wherein the compound comprises:





3-decanamido-2-ethoxypropyl-1-phosphocholine.

35. A method for treating a host infected with RSV comprising administering an anti-RSV effective amount of a compound of Formula AA-1:



(AA-1)

or a pharmaceutically acceptable salt or prodrug thereof,

wherein:

$\text{X}^1$  is  $\text{-NHC(O)-}$ ;

$\text{X}^2$  is  $\text{-O-}$ ;

$\text{R}^1$  is  $\text{-C}_1\text{-C}_{22}$  alkyl;

$\text{R}^2$  is  $\text{-C}_1\text{-C}_{22}$  alkyl;

$\text{R}^6$  is  $\text{-CH}_2\text{CH}_2\text{-}$ ; and

$R^3$ ,  $R^4$ , and  $R^5$  are methyl.

36. The method of claim 35, wherein

$R^1$  is  $-\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ ,  $-(\text{CH}_2)_5\text{CH}_3$ ,  $-(\text{CH}_2)_6\text{CH}_3$ ,  $-(\text{CH}_2)_7\text{CH}_3$ ,  $-(\text{CH}_2)_8\text{CH}_3$ ,  $-(\text{CH}_2)_9\text{CH}_3$ ,  $-(\text{CH}_2)_{10}\text{CH}_3$ ,  $-(\text{CH}_2)_{11}\text{CH}_3$ ,  $-(\text{CH}_2)_{12}\text{CH}_3$  or  $-(\text{CH}_2)_{13}\text{CH}_3$ ; and

$R^2$  is  $-\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ ,  $-(\text{CH}_2)_5\text{CH}_3$ ,  $-(\text{CH}_2)_6\text{CH}_3$ ,  $-(\text{CH}_2)_7\text{CH}_3$ ,  $-(\text{CH}_2)_8\text{CH}_3$ ,  $-(\text{CH}_2)_9\text{CH}_3$ ,  $-(\text{CH}_2)_{10}\text{CH}_3$ ,  $-(\text{CH}_2)_{11}\text{CH}_3$ ,  $-(\text{CH}_2)_{12}\text{CH}_3$  or  $-(\text{CH}_2)_{13}\text{CH}_3$ .

37. The method of claim 36, wherein

$R^1$  is  $-(\text{CH}_2)_8\text{CH}_3$ ,  $-(\text{CH}_2)_9\text{CH}_3$ ,  $-(\text{CH}_2)_{10}\text{CH}_3$ ,  $-(\text{CH}_2)_{11}\text{CH}_3$ ;  $-(\text{CH}_2)_{12}\text{CH}_3$ , or  $-(\text{CH}_2)_{13}\text{CH}_3$ ;

and

$R^2$  is  $\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ ,  $-(\text{CH}_2)_5\text{CH}_3$ ,  $-(\text{CH}_2)_6\text{CH}_3$ , or  $-(\text{CH}_2)_7\text{CH}_3$ .

38. The method of claim 36, wherein

$R^1$  is  $-(\text{CH}_2)_5\text{CH}_3$ ,  $-(\text{CH}_2)_6\text{CH}_3$ ,  $-(\text{CH}_2)_7\text{CH}_3$ ,  $-(\text{CH}_2)_8\text{CH}_3$ ,  $-(\text{CH}_2)_9\text{CH}_3$ ,  $-(\text{CH}_2)_{10}\text{CH}_3$ ,  $-(\text{CH}_2)_{11}\text{CH}_3$ , or  $-(\text{CH}_2)_{12}\text{CH}_3$ ; and

$R^2$  is  $-(\text{CH}_2)_6\text{CH}_3$ ,  $-(\text{CH}_2)_7\text{CH}_3$ ,  $-(\text{CH}_2)_8\text{CH}_3$ ,  $-(\text{CH}_2)_9\text{CH}_3$ ,  $-(\text{CH}_2)_{10}\text{CH}_3$ ,  $-(\text{CH}_2)_{11}\text{CH}_3$ ,  $-(\text{CH}_2)_{12}\text{CH}_3$ , or  $-(\text{CH}_2)_{13}\text{CH}_3$ .

39. The method of claim 1, wherein the administering is orally, intravenously, parentally, intradermally, subcutaneously, topically, or by inhalation.